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## Poetry.

### WHO IS MY NEIGHBOR?

Thy neighbor? It is he whom thou
Hast power to aid and bless,
Whose aching heart or burning brow
Thy soothing hand may press.

Thy neighbor? 'Tis the fainting poor,
Whose eye with want is dim,
Whom hunger sends from door to door;
Go thou and succor him.

Thy neighbor? 'Tis that weary man,
Whose years are at their brim,
Bent low with sickness, cares and pain;
Go thou and comfort him.

Thy neighbor? 'Tis the heart bereft
Of every earthly gem,
Widow and orphan helpless left;
Go thou and shelter them.

Thy neighbor? Yonder toiling slave,
Fettered in thought and limb,
Whose hopes are all beyond the grave;
Go thou and ransom him.

Where'er thou meet'st a human form
Less favored than thine own,
Remember 'tis thy neighbor worm,
Thy brother, or thy son.

Oh! pass not, pass not heedless by;
Perhaps thou can'st redeem
The breaking heart from misery—
Go, share thy lot with him.

### PAY, OH! PAY US WHAT YOU OWE.

SONG FOR THE LONDON TRADESMEN.

Higher classes, ere we part,
For the country ere you start,
Let your tradespeople distressed
Trouble you with one request;
Just a word before you go—
Pay, oh! pay us what you owe.

By those orders unconfined,
Which for goods of every kind
You so readily did give,
Think, oh! think that we must live.
Just a word before you go—
Pay, oh! pay us what you owe.

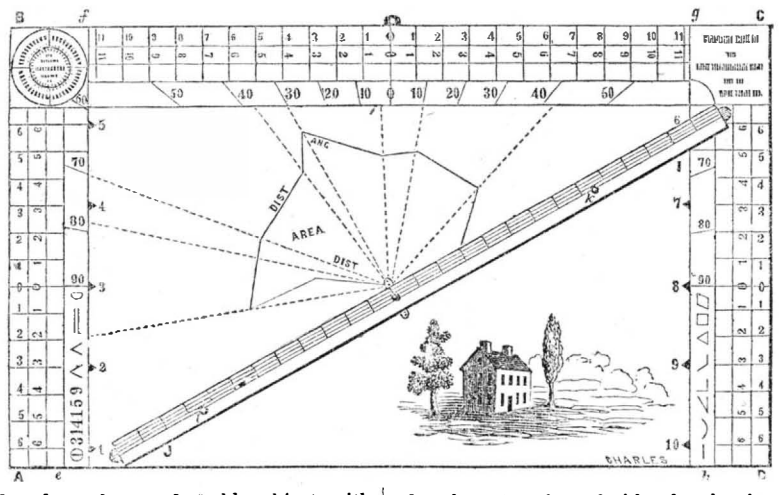
By those dresses of the best,
Silken robe and satin vest,
In whose splendor, by our aid,
You so gaily were arrayed;
Hear us cry, before you go—
Pay, oh! pay us what you owe.

By the opera and the rout,
Recollect who rigg'd you out;
By the drawing room and ball,
Bear in mind who furnished all:
Just a word before you go—
Pay, oh! pay us what you owe.

By the *fete* and the *soiree*,
And the costly *dejeuner*,
By your plate and *ormolu*,
Let your tradesmen get their due:
Just a word before you go—
Pay, oh! pay us what you owe.

More than nine thousand different animals have been changed into stone. The races or genera of more than half of these are now extinct, not being known in a living state upon [redacted]

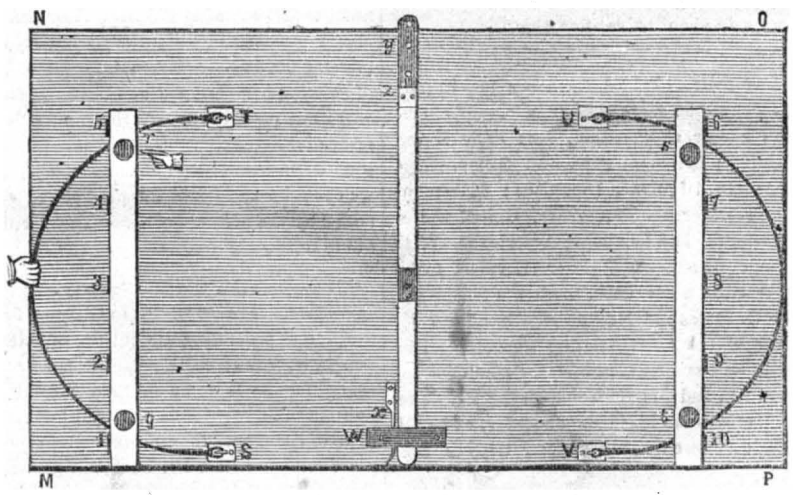
## CHAMBERLIN'S DRAWING BOARD.




It has always been a desirable object with artists, amateurs and surveyors to be able by some mechanical contrivance to measure the distances and take the observations of hills, valleys, rivers, and lakes, as the astronomer measures the distances and describes the form of the rolling spheres. Various contrivances have been brought forward to accomplish this, such as the camera obscura, &c. But all instruments hitherto invented for this purpose have been either made on too large a scale, or were too expensive for general use. Mr. Henry W. Chamberlain, of Pittsfield, Mass., has devoted much time to secure for the class we have mentioned, *a Drawing Board*, on an improved and cheap plan for general use, and the result has been the one represented in the engraving. He has exhibited one of his Boards and it has been highly praised for simplicity and beauty. It is made of mahogany worked to one-fourth of an inch in thickness. All the different parts are of the same wood and fastened with silver headed screws, except the parts that have to be glued together. The ketch pieces have each two holes through which the guide legs pass and they are screwed to the outer edge of either ketch piece.—The wood screws used for fastening are of ebony, and the whole board is of beautiful workmanship. The following description will enable the reader to better understand the different parts.

FIGURE 1.—A B C D, is an outline of the Board. It is made of hardwood, 2 boards one fourth of an inch thick each glued crosswise to prevent warping. J I, is a hardwood Rule turning on a centre pin. It has four different scales laid out each way on the outer edges next the paper for convenience. *e f g h*, is the paper surface of the board which is stamped accurately with three scales on the prolongation of the rule of 360° to facilitate the laying out machinery and for surveying. K L, are two knobs to move the rule. The rule has an eye on each side of the centre for the centre pin, of sheet brass fastened with a wood screw. The centre rule is the most difficult part to understand. On the plate are two holes on each side of the rule. The inner set of holes are for pencil or other points to operate and the outer set for steel pens which the inventor prefers when they are good.

### Figure 2.




M N O P, are the outside boundaries of the underside of fig 1, A B C D. 1 to 10, are the upper pair of ketches holding the paper sheet. The centre pin should be set in thicker brass than that used in the rest of the work. It will be seen that the numbers count from the centre lines in two positions. The ketch pieces *q r s t*, with legs passes through at the centre as represented and brass spirals surround the legs under the ketch pieces to hold the drawing sheet down while a pressure, as at ☞, relieves it at once. Sheet brass is to be used for ketches, hinge joint and hang strap united as at Y Z, spring ketch as at X, and bands, &c. &c., as at W. The bales S T U V, are of stout iron wire flattened at the ends and perforated for wire loops rivetted to brass pieces, which pieces are screwed to the board. A wood square and bevel united and of the length of the board go with it.

The inventor says: "When I wish to use a different scale on the above rule I make a corresponding shift on the centre pin. If in surveying I have an open field of any number of sides, I set the compass in a permanent position, where I can, by means of a suitable signal pole, take the direction of every corner in succession from left to right, or with the sun, setting the results with the same order in the field book, then taking the centre pin as the compass station the same course is to be taken on the draught sheet as in the field, which you perceive brings the whole field into triangles and vice versa, any method of surveying can be rapidly plotted and calculated."

The whole methed of its use, and the price and the price and all information relative to it can be had of the inventor and it must be of immense value to every man who has a taste for drawing, or whose employment requires i

### RAIL ROAD NEWS.

The Comptroller of this State reports in answer to a resolution that the Canal and Railway revenue for the fiscal year ending August 31st, was $3,470,904, from which is to be deducted $600,000 for superintendence and $200,000 to the Treasury and $1,650,000 pledged by the constitution to the Sinking Fund, leaving the sum of $1,020,094 available for the public works.

**Hartford and New Haven Railroad.**

During the past year the expenses of this company have been very heavy. All the bridges on the road between Hartford and New Haven have been rebuilt, as well as the one over the Connecticut. Two new passenger, two new second second class and thirty-four eight wheel freight cars, and two locomotives, have been added to their transportation power. Their branch road in Hartford to the river cost $85,607, and the business which has been added in consequence to the road, has more than exceeded the most sanguine expectations. The number of persons transported over the road the past year has been 226,595, showing an increase of 35,325 over the previous year. The amount received for freight was $61,250, being an increase of 46½ per cent over the previous year. The total receipts the past year have been $324,725, and the directors have declared a dividend of 4 per cent, payable on the 1st October.

**Michigan Central Road.**

The Boston Post of 17th inst., says 31 per cent is offered for the stock of the Michigan Central Road in the stock market of that city.

**Railway Traffic in England.**

From official returns it appears that the receipts of traffic for the week previous to the sailing of the last steamer, on upwards of 3154 miles of railway, was £206,410, viz. £126,675 for the conveyance of passengers only, £42,-236 for the carriage of goods, and a remainder of £38,199 for passengers and goods together, being an increase of £28,612 over the corresponding week week of last year, when the mileage was about 2290.

The passage from Glasgow to London and back in the first class cars, is only $14,26, for a distance of 952 miles.

**Magnetic Telegraph.**

The whole amount of stock for the proposed telegraph line from Troy to Montreal via Bennington, Rutland and Burlington is taken. It will be completed and put in operation the present fall.

**Comparison of Speed.**

A Fench Scientific Journal states that the ordinary rate per second, of a man walking; is 4 feet; of a good horse in harness, 12; of a reindeer in a sledge on the ice, 16; of an English race horse, 43; of a hare, 88; of a good sailing ship, 14; of the wind 82; of sound, 1,038; of a twenty-four pounder cannon-ball 1,300; and of the air, which so divided, returns into space, 13,000 feet.

**A Strange Case.**

A young girl has lately been brought to Boston for the benefit of eminent medical treatment, who has been suffering for several years with a strange infirmity. It is a noise in the throat, loud and distinct, and sounds like the striking of two metals together or castanets used by boys in the street. The noise is without intermission, save perhaps for a few minutes occasionally. As yet, the cause of the noise has not been ascertained, or any means found to abate the disorder, which so far has been on the gradual increase. It is totally distinct from the motion of the lungs while breathing, and altogether is one of those cases which are beyond the ken of human wisdom.

The Palmyra tree grows 100 feet high and perfectly straight.

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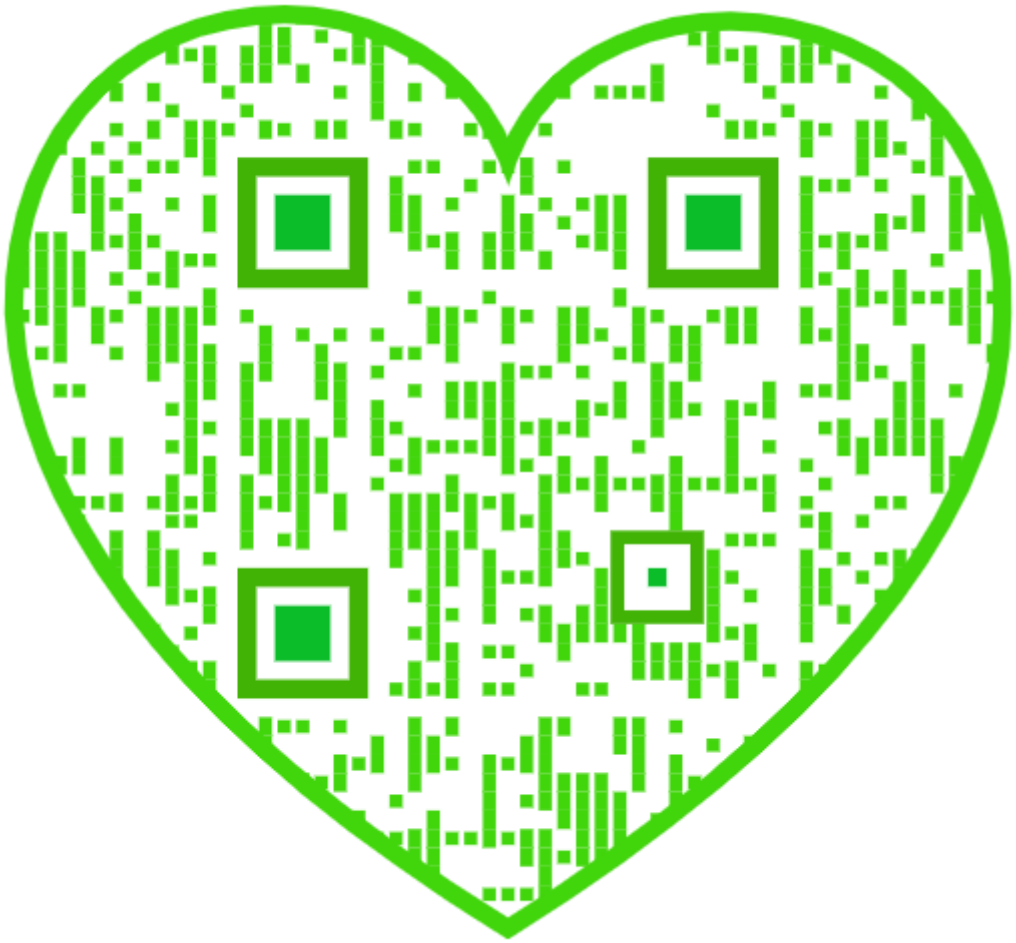

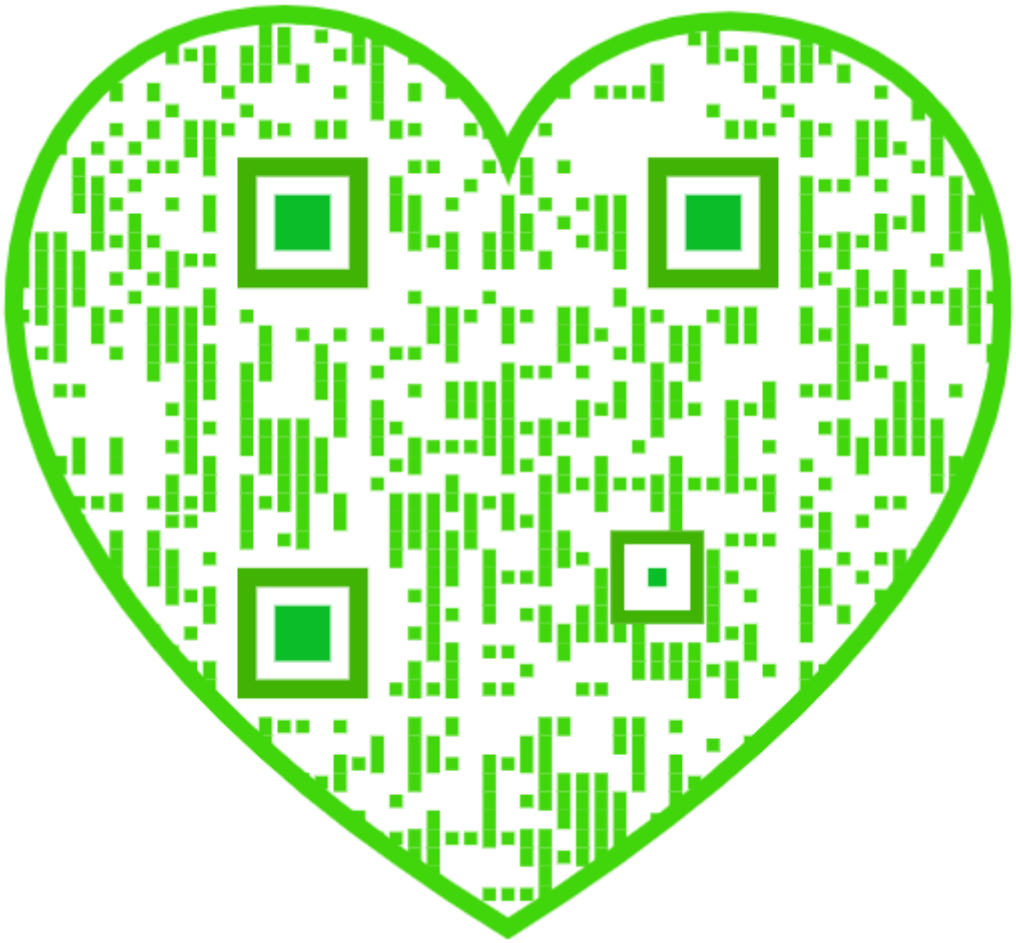

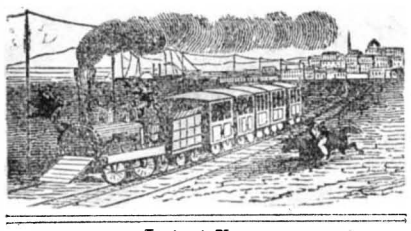

### Latest News.

By the French Courier of Tuesday, we learn that there has been another insurrection in Hayti, and it seems that the President, Souloque, is at the head of it. The mulattoes and pure blacks are distinctly separated there, and entertain a cordial hate for each other.

We have no news yet of a treaty of peace being effected with Mexico. The armistice is undoubtedly a piece of correct and sagacious policy on the part of Gen. Scott, as his army, which was much exhausted and thinned in numbers, will shortly be reinforced by 4000 fresh troops, ready to dictate in more forcible terms to the Government of Mexico.

The steamship Britannia arrived here on Friday last from Boston, was placed on the Sectional Dock on Saturday, got a new keel put in her by Monday evening, took in her coal on Tuesday forenoon and was off and away that evening. She is a vessel built in the most substantial manner throughout

A native of New York State has been murdered in New Orleans His name is J Hoit.

It is supposed that the General Manufacturing Bill, will be passed with some amendments by the Legislature of this State. Each stockholder by it is responsible to the whole of his estate for the operatives' wages, but not for other debts that may be incurred, only to the amount of stock invested.

A bill has also been passed for the incorporation of charitable and religious societies.

The steamship Washington was spoken on Friday last, off South Shoals, by the bark Edwin. She had all her sails furled and was under steam, going at the rate of twelve miles an hour.

### Columbian for October.

This popular magazine has a gain made its appearance and as usual is well stored with interesting matter. The engraving of "Little Rogues in trouble," is worth the price of the whole number itself, while the beautiful engravings of "Rural Pastime," "Fashion Plate," Music and other interesting reading matter is all profit to the purchaser. Ormsby & Hackett, publishers, 116 Fulton street.

### Fires in New York.

*The number of actual fires* during the year has been 834, causing damage *only* to the amount of $168,307 to buildings, and to stock $374,135, a total which when compared with the annual loss before the introduction of the Croton, afford abundant reason for congratulation that we have it at our command, and adds another proof of the efficiency of the Department. There have been also during the year 125 false alarms, but during the past four months since the bell ringers have been under the direct control of the Chief, these have been much less frequent.

### Extension of the Lumber Market.

The Commissioners of the Illinois and Michigan Canal, estimate that when it is completed 33,000,000 feet of lumber will pass through it the first year. In view of the extension of the lumber market, several new mills are being erected in the pineries bordered on the lakes of our State.

### Enterprise.

The Springfield Republican says that a Company with a capital of $100,000, to be increased one half another year, has purchased land of the value of $30,000 in that town, on which to erect an extensive range of shops for the manufacture of rail-road cars and locomotives. This addition to the business of Springfield will, it is supposed, add one thousand to its population.

### Works of Dr. Chalmers.

The copyright of Dr. Chalmers works including his life and letters, to be published by his son-in-law, Dr. Hana, together with some additional volumes of sermons, and a commentary on the Bible, has been sold for between $50,000 and $60,000.

### Disinfecting Gas.

It is now near three months since the U. S. frigate Raritan arrived at Norfolk from the Gulf of Mexico, with the yellow fever raging on board. She was ordered to quarantine, and such was the dread of the fatal disease, that though every part of her was open, and her valuable cargo of provisions, &c exposed, no one dared board her, save some hands from the Vandalia, whose duty it was to trim the wind-sails, that were set with a hope of purifying her. Sailors who ventured below were sure to be seized with a violent sickness, five out of every seven being prostrated by the foul stench that arose from the hold. It was proposed to scuttle her, but this was not carried into effect, as it involved the loss of sixty thousand dollars in provisions, powder, &c., which could not be removed while she remained infected. Some two or three weeks since Professor Robert Grant received permission of the Bureau of Construction, Equipments and Repairs, to experiment on the frigate with his newly invented disinfecting gas. He went on board with his apparatus, and after laboring day and night for a week, she was reported, a few days since, by the Commander of the Navy Yard, as "wholly disinfected and perfectly healthy."

### New Telegraph to Philadelphia.

The Board of Aldermen, last Monday evening, voted to permit Hugh Downing and Royal R. House, to lay a line of telegraphic wires through the West side of the City, over the tops of houses, provided they first obtain the consent of the owners of said houses. We understand that as soon as such a line undertakes to operate, Prof Morse will cause an injunction to be laid upon it for the purpose of testing the extent and validity of his patent, He maintains that his patent involves the whole application of electricity to telegraphic purposes by means of continuous wires, and that no improvement in the mode of instruments by which the telegraph is operated can be used except by his permission.

### Titles.

In the Convention for forming the Constitution of the United States, it was proposed that *titles* should be given to the high officers of the Government; and the proposition met with favor. The discussion of the subject had gone on for some time, when Dr. Franklin arose, and with great apparent gravity, remarked—"that as this matter seemed to be seriously entertained, and might be carried, he had to suggest *one title* which would be new and appropriate—it was a title for the Vice President—and it was, 'His most *Superfluous* Highness!'" There was not much more said about titles after this.

### Ocean Steamers.

New York had more ocean steamers in port this week than were ever before in any American harbor at one time, viz: The Union (French); Britannia and Sarah Sands, (English); Guadalquiver, (Spanish); Massachusetts, Northerner, Southerner, United States and Iris, the last five being Americans. With the Bremen Line Steamer Herman, to be launched in a few days, there are ten in all. The U. States and Northerner are not inferior to any of the trans-Atlantic steamers. The Union will sail for Cherbourg, France, on the 30th inst., and the Britannia on the 1st. The Herman was launched on Thursday, and will at once commence her regular trips to Bremen.

### New Line of Cunard Steamers.

The New Line of Steamers from Liverpool to this City will commence their regular trips in the month of December next. We understand that Mr. Cunard has been a long time in this City laying up a store of coal, and getting all things arranged for the despatch of business.

### Chinese Junk.

This vessel remains in the keeping of the U. S. Marshall of this district in consequence of the libel placed on her by the Chinese crew. We do not know how much longer she will remain here, but the native crew are going home soon in a merchant vessel.

There is a boy down West, who is so bright that his father uses him as a looking glass to shave by.

### Remarkable Antiquarian Discoveries.

Mr. W. H. Rolfe, of Sandwich, assisted by Mr. T. Wright and C. Smith, has been pursuing with considerable success the researches commenced last year among the early Anglo-Saxon graves then discovered on Osengaldown in the isle of Thanet. During one week, there were eight graves opened, which furnished a number of curious articles of arms and personal ornaments. In one grave were discovered a male skeleton, with the skeletons of his wife, and, apparenently his daughter, evidently all three interred at the same time, and in a position which evinces the affectionate feelings of our early forefathers. They lay arm in arm, and the faces of the man and his wife were separated only by the warrior's spear. Another grave contained also skeletons of a male and female, the forehead of the former resting on his partner's cheek. On the breast of this lady was found a magnificent brooch of silver-gilt set with garnets.

### Extent of the United States.

The United States have a frontier of more than 10,000 miles. We have a line of sea coast of nearly 4,000 miles, and a lake coast of 1,200 miles. One of our rivers is twice the size of the Danube. the largest river in Europe. The Ohio is 600 miles larger than the Rhine, and the Hudson has a navigation 120 miles longer than the Thames. The State of Virginia is a third larger than England. Ohio contains 5,130,000 acres more than Scotland—From Maine to Ohio is further than from London to Constantinople, and so we might go on and fill pages, enumerating distances, rivers, lakes, capes, and bays, with comparative estimates of size, power and population.—*Cincinnati paper.*

### Exports of the United States.

The export of breadstuffs from the United States to Great Britain since 1st September have been 2,922,000 bbls. Flour; 826,536 bbls. Meal; 3,464,400 bushels Wheat; 15,801,000 bushels Corn; 84,000 bushels Rye; 437,000 bushels Oats; 307,000 bushels Barley. Reducing the Flour and Meal to Grain here is an aggregate of over *thirty-seven million* bushels Grain exported to Great Britain and Ireland alone since 1st September, which have realized probably *forty-five* millions of dollars. Large quantities have also gone to other parts of Europe.

### Printers Convention.

A proposition for a general convention of the printers of New York, to be held at Albany on 15th November next, appears in a late number of the Albany *Evening Journal.* The object shall be to consider the propriety of establishing a Printers Asylum for New York, of erecting a monument to Franklin, and to adopt measures to advance the interest of the profession, and to promote union among those engaged in it. This is a laudable object, and we should like to see the proposition entertained by the printers of New York, with Ohio to follow the example.

### Scotch Cotton Society.

A society is to be formed in Glasgow for the purpose of promoting the culture of cotton in Australia, by free European labour and every facility is to be afforded for the emigration of laborers from Scotland to this new field of industry. The movement has originated with the Rev. Dr. Long, the historian of New South Wales.

### Land Given to Settlers.

The State of Arkansas invites emigrants to come and take lands which have been forfeited for taxes, and no payment will be required of them. The Auditor, upon proof of settlement, will make a deed, which deed the Supreme Court of the State has decided will be valid. The forfeited tracts comprise, it is said, some of the finest lands in the State.

### Artesian Wells.

Several large land-owners in Algiers have ordered artesian Wells to be bored upon their lands, by which they expect to overflow them.

### Heavy Loan.

The French Government is about to negotiate a loan of $70,000,000, or 350,000,000 francs.

### The Hydrargos.

The huge skeleton which was exhibited in this country two years ago and which was pronounced a great natural curiosity by one party and a great artificial humbug by the other, has lately been examined by Cainus, the great Dresden naturalist, in connection with Graither, Reichenbach, and several other scientific gentlemen, who unite in the opinion that it is genuine. They agree in pronouncing it one of the most interesting remains ever discovered. In their opinion, the animal was a trainsition between amphibious and land animals.

### Steam Power at the Falls of the Genesee.

Such are the improvements in the economy and application of steam power, that an extensive saw mill is in proces of erection in Rochester, on the very banks of the river, which affords an abundant water power.

These are trying times for health—so guard well against colds. Mrs. Partington, of the Post, says that she has got a romantic affection in her shoulder, the neuralogy in her head, and the embargo in the region of her jocular vein, and all from opening the window in the night to throw a bottle at a brace of belligerent cats on the shed.

The Naval contract of the British Government is announced for 5000 tierces of beef, and 11,000 tierces of pork, but this contract is not limited, as heretofore, to beef and pork cured in the United Kingdom *but admits contracts from all parts of the globe.*

A colony of Hollanders, amounting to about 1,000 have purchased two entire townships in Marion county, Iowa. They bring their own mechanics and artisans with them, and have selected their site for a town. About three thousand more are expected to join them by next spring.

The proprietors of the valuable property at the great Falls of the Potomac, already laid off and incorporated as "South Lowell," intend, the Alexandria Gazette learns, to offer inducements rarely presented for the establisment of manufactories there.

The ten hour law of New Hampshire has given occasion for serious difficulties in the mills at Nashua, it is said from a half to two thirds of the hands recently employed in which have been discharged because they would not give their employers two hours more labor per day than the law requires of them.

A House at Berlin has proposed to furnish all the railway companies in Germany with silk blinds for their carriages gratis, with the provise that the blinds are to be filled with advertisements, and to be changed at the pleasure of the furnishers.

Miss Eliza Miller, a young lady of Newark, New Jersey, has recovered a verdict of $1,500 against the Newark Gas Light Company for injuries received by falling into a hole, in one of the streets, which the company had made for the purpose of of laying down pipes.

Reputation is a bright but brittle gem: while sparkling on the forehead, it dazzles all eyes with its glitering radiance; but if roughly handled, shows it fragile nature, and shivers almost at the first touch.

The decrease of Irish manufactured spirits for the quarter terminating April 5, 1847, as compared with the corresponding period of the previous year, reached 595,711 gallons, and £74,918 duty.

The secular clergy in Servia are so poor, that they often tend herds of oxen for the farmers, in order to eke out a living.

A cheese weighing 550 pounds was to be seen at the Mechanics' Fair, Boston. It was brought from Ohio.

Sixty-seven members of the British Parliament are Chairmen or directors of Railway Companies.

Theodore Hook says of railroads and steamboats—"they annihilate space and time, not to mention a multitude of passengers."

A maiden lady lately advertised for a receipt to make *secrets*, as she never yet had a good one that would bear *keeping*

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### Effect of Pavements upon Health.

The causes of disease, which are being investigated so extensively at the present time, are sometimes traced to the most remote origin. It would enter the minds of few that pavements, which are constructed merely for the convenience of transit in crowded cities, are preventatives to ill health; but such has recently been proved. The corporation of Liverpool having recently paved the courts and alleys of that town, it has been observed that the health of the people residing in them has wonderfully improved, and that deaths were less frequent. This led to further inquiry, and attention was directed to six of the worst courts in Liverpool. Of them Mr. Carr of the southern dispensary, remarks that they were so notoriously unhealthy that the medical attendant was scarcely out of them, and when any epidemics visited the town these places exhibited their results in perfection: the surface being in a most disgraceful state, covered to some depth with putrid mud, so that the inhabitants were compelled to place large stones at intervals to enable them to reach their houses by stepping from one to another. It is also stated by Mr. Samuel Holme that in Freemasons row he found about two years ago a court of houses, the floors of which were below the public street, and the area of the whole court was a floating mass of putrified animal and vegetable matter, so dreadfully offensive that he was obliged to make a precipitate retreat; yet the whole of the houses were inhabited. Since these sinks of insalubrity have been paved the change in the health of the inhabitants has been more remarkable than what may have been anticipated. In one place (Bridport court,) which contains eighteen houses, the cases of sickness were eighteen before to four after the flags were laid down. In another alley (Oak court) the proportion is five cases now to twenty-eight in former years; and, so far as observation has been extended, which it has been in fifty-seven of the houses, the fronts of which have been paved, to eighty-five cases of sickness which occurred before paving, only sixteen have taken place since. The obvious effect of smoothing causeways, by means of flags or other paving materials, is to do away with such inequalities as form receptacles for the stagnant water left by rain, and the offals of food with which the poor are apt to strew the fronts of their residences. The malaria thus produced is productive of ague and other painful and fatal diseases. It is therefore the duty of all official persons who have the charge of these matters in towns, not only to see that their streets are well paved for the convenience of the pedestrians, but for the health of the public.—*Chamber's Journal*

### Walker's Effluvia Trap.

An apparatus, or as it is called, a trap, has been registered by Mr. J. Walker, of 48 Shoe-lane, London, for preventing the effluvia of drains from rising and infecting the air. The inventor obtained the silver medal for his invention from the Society of Arts, and a model of it can be examined at his residence. It is intended to be placed over gratings, and its advantages are that its action cannot be affected by stones or rubbish passing through the grating: that it can scarcely be put out of repair; that it cannot be stopped by ice, and that it will prevent the effluvia from the drain as well as from the sewer. There is a chamber or receptacle for water, and chains or links, &c, by which the person to whose management it is intrusted, can empty it of its contents and restore it to its proper position for acting as required. Now that the health of towns has become so interesting a subject for inquiry, it will be of consequence to investigate the claims of this invention and similar ones for public adoption. It is simple in its construction and appears very efficacious.—*Artizan.*

A distinguished gentleman of Pennsylvania whose nose and chin were both very long, and who had lost his teeth, whereby his nose and chin were brought near together, was told, "I am afraid your nose and chin will fight before long; they approach each other menacingly." "I am afraid of it myself," replied the gentleman, for a great many words have passed between them already."

### The Public Domain.

At the last session of Congress a report was made from the Treasury Department of the quantities, surveys, acquisitions sales and reservations of the public lands, from which we make the following extracts:

Estimated quantity of land yet to be sold in each state and territory east and west of the Rocky Mountains. ACRES.

| | |
|---|---|
| South of latitude 49 degrees, | 1,084,064,993 |
| Deduct reservations, : : | 7,526,779 |
| Leaving, : : | 1,076,538,214 |
| Value at $1,25 per acre | $1,345,672,767. |
| Of the above quantity the Indian title is extinguished to : | 367,947,165 |
| Unextinguished : : : | 716,117,828 |
| Surveyed : : : : | 272,646,356 |
| Uunsurveyed : : : | 811,418,637 |
| Of the public lands there have already been sold down to Sept. 30, 1842, 107,796,536 acres, bringing : : | $107,940,942 |
| Money paid for extinguishing Indian title, Florida and Louisiana purchase including interest : : | $68,524,990 |
| Surveying, including salaries and fees, | 9,966,610 |
| | 78,491,601 |
| Net funds from the public lands, | $29,449,341 |

In addition to lands sold, there have been granted to the new states, for purposes of internal improvement, education, &c., grants for military services, reservations made, and and sold for the benefit of Indians, &c., 33,856,559 acres.

| | |
|---|---|
| Of the public lands, Virginia, New York, Massachusetts, Connecticut ceded | 166,600,819 |
| Georgia ceded : : : | 58,898,522 |
| North and South Carolina ceded | 26,432,000 |
| Purchased of France and Spain | 987,852,332 |
| Total, acres : : | 1,242,792,673 |

This report also contains the deeds of cession from the several states, every one of which expressly says that the cession is made for the common use and benefit of the States.

### Wonderful Feat.

A brick building at the corner of Tremont and Broomfield streets, Boston, was moved lately 11 or 12 feet, including the cellar walls, upon a temporary railway, by means of jack screws. The building was estimated to be 500 tons in weight, but scarcely a jar was felt in the process of moving—not so much as the rolling of a barrel of flour upon the floor—and the contents of the grocery store, for which it was used were not removed but the ordinary business continued all the while without interruption. This is the first feat of the kind ever accomplished, and as may readily be imagined was a work of much difficulty. The process, as described in the Whig, was to first dig the new cellar and lay a foundation wall to correspond with the old one. Upon this wall two iron bars were affixed, several inches apart, over which the building was to move on small iron rollers. Underneath the old wall a similar preparation was made. The difficulty of moving was made greater by the unevenness of the stones composing the wall, many of which were taken out, and their places substituted with others of a smooth surface. Six screws were used in the operation which was done under the direction of James Brown of Providence, R. I.

### The Stethescope.

It is ingeniously suggested that the following very curious extract from No. 201 of the Philosophical Transactions, contains the germ of Lænnec's immortal discovery: "A ready way to find a leak in a ship, is to apply the narrow end of a speaking trumpet to the ear, and the other to the side of the ship where the leakage is supposed to be; then the noise of the water issuing at the leak will be heard distinctly, whereby it may be discovered."

### Food on an Acre of Land.

Allowing wheat at 15 bushels to the acre, 900 lbs of food are produced. One acre of potatoes at 300 bushels, produces 18,000 lbs. The wheat at 75 cents the bushel, is worth $11,25. The potatoes at 10 cents the bushel, $30. A farmer in Illinois writes that potatoes delivered two miles from the digging at 6 1-4 cents a bushel, is more profitable than wheat at 75 cents, if carted, as most of it is, from 60 to 100 miles.

### Science in Russia.

An uncommon effort is now making in Russia, to promote a knowledge of the natural sciences. This is the more extraordinary, when it is recollected that the imperial government has exercised an unparalleled hostility towards the only two universities of distinction in poor, degraded, miserable Poland, the victim of the most disgraceful barbarities that were ever practised in a civilized age. Two professors of geology, whose high attainments would confer honor on any country, have been dismissed, and the cabinet of the former sold in Russia, in order to prevent the possibility of having the higher departments of useful knowledge taught in territorial Poland.

At Irkutsk, in Siberia, that remote section of the world, where nature scarcely tolerates the existence of animal life, there is a gymnasium, which is furnished with an excellent library, and collections of minerals, rocks and shells, of great value. Count Gancrin, a philosopher as well as Minister of State, was a principal mover in the laudable efforts to enlighten his rough countrymen in the beautiful and sublime science of nature. Even Nicholas, intent as he seems to be in fettering the minds, limbs, and property of his millions of subjects, has sanctioned, since 1833, eight expeditions, of moment to the learned in all countries. Four of them were explorations of the Ural mountains, for the express purpose of obtaining a complete geological map of that singular and truly terrific region. North of these mountains, in the Trans-Caucasian district, where the auriferous sand, Glauber's salts, and volcanic soils, are predominant, the Russians have made themselves familiar with all the products which are regarded as important by chemists or geologists. The Emperor no doubt feels that want of elevation in all that relates to the appurtenances of mind are an almost infinite drawback to the worth and comfort of his dominions. And if there be any truth in the Cobbet-formed adage, "*Knowledge is power*," let Russia be once enlightened, and she becomes an empire not to be trifled with, and a powerful agent in the way of doing good.

### Observance of the Sabbath.

A Glasgow paper states, that when the Grand Duke Constantine of Russia, visited the island Iona, during his late tour in Scotland, he was unable to obtain access to the ancient cathedral, as the keeper of the keys obstinately refused to unlock the gates on a Sunday, on which day the Grand Duke arrived. The consequence of this scrupulous observance of the Sabbath was, that the Russian prince was forced to leave the island without viewing the interior of the cathedral and the tombs which it contains.

### Gold.

Constant developments of the richness of the mines of North Carolina are occurring. We learn that the Hon. E. Deberry, had, at Troy, week before last, near 6 lbs. of gold, in pieces, 5 of which weighed 5lbs. 8oz. 18 dwt. The largest of which weighed 1 lb, 11 oz. This was all found lately, near Island creek in Montgomery county, on the lands of Mr. Deberry and Duncan McRae. Last year, near the same place, the same persons found several other large pieces.

### Lady's Wit.

The Duke of Roqualaire, while on a journey, met at sball at Toulouse, a young lady of surpassing beauty. He could not forget her and sent back by a confidential friend to say that she was the possessor of his heart, and he would give a thousand louisd'ors for one hair of her eyebrow. "Take my compliments to the duke." replied the lively lady, "and tell him I do not deal in retail, but since I have been so happy as to please him, he may have the whole for that sum.',

### American Bar Eloquence.

"May it please the honorable gentlemen of the jury—the defendant in this case, wilfully and maliciously, with all the terrific frenzy of a roaring lion, and with his gigantic strength he did there and then seize my inoffensive client by the collar—and tore his shirt!"

When you write for a newspaper, be sure that you understand yourself.

### Interesting Antiquarian Discoveries at Malta.

We understand that Mr. William Winthrop, United States Consul, and Mr. Walter Lock, of the Royal Artillery, have been engaged during the past month in excavating a temple at Citta Vecchia, which, doubtless, owes its origin to the earliest inhabitants of this island, and may be considered a most remarkable relic. This curious Phœnician relic, or "Church of the Saracens, as the country people have already begun to call it, is situated in a very pretty valley, not far from the small church of Virtu, and can easily be found by those who as antiquarians, in search of tombs, have made themselves acquainted with that part of the island. Travellers and others, who take any interest in antiquarian researches, will be amply repaid for their trouble in visiting this temple, which will carry their speculations back to the earliest ages, and be found wholly unlike any other place in Malta or Gozo now known to exist.—*Malta Gaz.*

### Servian Charm to Obtain Rain.

A maiden is divested in her usual garments and so wrapped round with grass, herbs, and flowers, that hardly any part, even of her face, can be seen. She is called the *Dodola*, and in this state, like a walking bundle of grass, she goes from house to house: the housewife then pours a pailful of water over her as a symbol. Her companions chant a prayer for rain, and the people feel almost certain of obtaining their object. They have a song expressly composed for the occasion; its purport is that the clouds should outrun the procession and bedew the grapes and corn as it advances.—*Ranke's History of Service.*

### The Indian and the Burning Glass.

An old Indian seated near me took out of his pouch a bit of punk, and flint and steel, and began to strike fire to light his pipe. I directed the interpreter to tell him he need not be at that trouble, that I would bring down fire from the sun and light his pipe with that. He looked at me awhile, and shook his head, as much as to say "Nonsense!" I rose and went to him drawing from my pocket a sunglass, and carefully concealing it from his view, drew through it the focal rays, and told him to smoke. He did so: when the tobacco being ignited and the smoke from it filling his mouth, he first looked at me, then at the sun, then at his pipe, with eyes that danced in their sockets with amazement and awe.—*McKenny's Travels.*

### Sore Throat.

The following Poultice for the throat distemper has been much approved in England: "The pulp of a roasted apple, mixed with an ounce of tobacco, the whole wet with spirits of wine, or any other high spirits, spread on a linen cloth, and bound upon the throat at any period of the disorder."

### Going Through Chancery.

An old streeker was accustomed to drive the best horse and the costliest buggy in the neighborhood. The crack of his whip was as alarming as the whistle of a steam boiler.—But steam fails for want of fuel—and so did "whip."

Chancery, chancery' No remedy but in Chancery. Horse stopped—buggy stopped—payment stopped. But soon, oh, how soon,—"whip was seen again by his old friends driving *his own horse and buggy*—the identical team he had driven before.

"How now," said an old acquaintance, the same horse and buggy again! I thought you had been through Chancery."

"So I have—*but my horse and buggy went round.*"

### A Witty Prisoner.

Not long since, the chaplain of one of our state prisons, being engaged in preparing a table of crime, held the following dialogue with a prisoner:

Chaplain—Well what brought you here?

Prisoner—The sheriffs, sir.

Chaplain—But I want to know if Liquor had anything to do with it?

Prisoner—O yes, sir, they were both drunk!

A man confined in jail at Newport, R I. has sent word to the city Fathers, that unless they immediately repaired the walls sufficiently to keep the *cows* out, he won't stay there *another day.*

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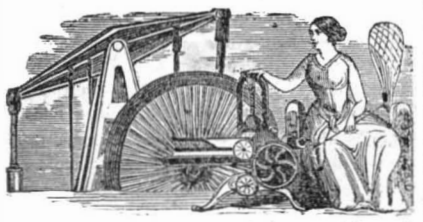


# New Inventions.

### Mosaic Glass for Flooring.

Mr. P. Hewins of Hartford, Conn., has discovered a composition for making glass as a suitable for marble floors, and also for making it of every variety of color. He makes plates of all sizes and shapes, and of any thickness. Mr. H. claims for his discovery the following advantages:—

1st. The glass can be pressed into every possible shape, and every block will be of the same exact size.

2d. The glass can be made of every variety of color.

3d. The glass will not stain by the most powerful acids.

4th. The colors in this kind of glass will not diminish in beauty, so long as the material lasts.

5th. The flooring glass is much stronger, and will resist a heavier blow than the best of marbles; and the artist in making a floor, having every variety of shape, with the utmost exactness in form, and all the colors, has it in his power to make figures or patterns as his taste may dictate. The material would make a beautiful hall floor to private dwellings, for church aisles and chancels.

This article has been examined by distinguished gentlemen, engaged in the manufacture of glass, and they express but one opinion with regard to it

### Umbrella Lock-up.

At the Mechanics' Fair held last week at Boston, a curious invention of Mr. A. B. Balcon, was exhibited, which had we been in possession of a year ago, would have saved us two new umbrellas. It is a neat piece of handle furniture. In the head is a small key, which fits a spring in the handle. The head is small and screws on, and by a turn or two can be taken off in a second, and conveyed to the pocket. By the act of unscrewing the head the umbrella is locked, so that it cannot be used by the unauthorised appropriator.

### Nautical Pump.

At the same Fair there was exhibited a most invaluable invention by W. K. Phipps, Esq. of Framington, Mass. It is a pump of peculiar powers, to be applied to vessels having been injured by stranding, running upon rocks, &c., when the ordinary hand pump would be of little or no avail. The great object of this invention is to force out the water received in the ship's hold by the same aperture at which it entered. With this pump there is no danger of choking; and when a vessel has been run ashore, and the bottom so far beyond the power of the lifting pump, the nautical pump will surely give the desired relief.

Instances might be cited where this invention might have been of vast service. In the case of the steamer Great Britain with this machine that noble vessel might have been set afloat in a short time. This invention is one in which the mercantile community should find deep interest, and we would suggest a careful examination of its powers, and its adaptation to cases of peril at sea, where the security of life and property is involved.

### Reaping Machine.

The Michigan Telegraph, speaking of a large reaping machine in operation at Prairie Ronde, says the machine has been improved until it presents the appearance of a moving house, slowly passing through the field of wheat, leaving nothing behind it but the chaff and straw. The grain is cut, threshed, winnowed and put in bags, before it is again seen after the fingers of the machine once touch it.

### Something New.

A neat portable Forge, with fan blower, treadle, &c., to operate like a lathe, has been got up by Messrs A. S. & J. W. Fowle, East Orange Street, near Harrison Avenue Boston, admirably adapted to the use of Dentists, Chemists, Silver-smiths, or any other purposes where a steady blast is required.

### A New Plow.

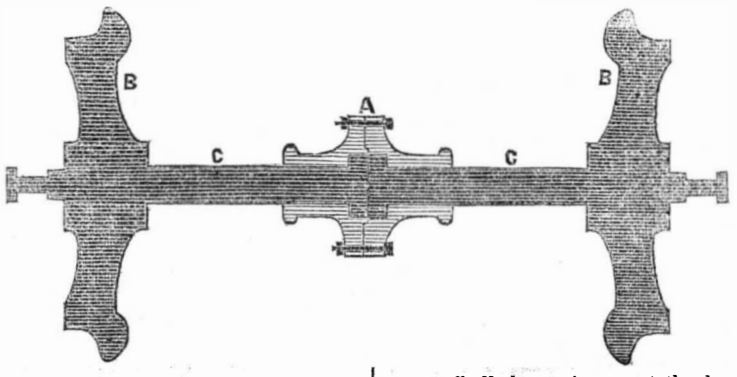
We learn from the Independent Delawarian, that Mr. John Sebo has constructed a plow somewhat in the usual form, except that the coulter is placed horizontally with the end of the beam, and that the share is more than twice the length of that of an ordinary plow, which the inventor supposes will diminish the draught more than one half. Under this plow are two rollers, one a few inches in the rear of the coulter, and the other near the extreme end. Two other rollers are placed on the left side, to prevent its striking against the furrow, and also to lessen the draught. These rollers can be removed at pleasure, when plowing in damp ground, but when the ground is dry and hard, they can be used to advantage, and will require less force to draw it. Although not sufficiently acquainted with this implement to express any opinion as to its utility, we should suppose, however, that it will be found an improvement of no little importance. Some of our most experienced agriculturists, who have examined this plow, we are informed are much pleased, and express the opinion, that, ere long, it will supersede all other kinds now in use, so great is the improvement considered to be by them. We hope these sanguine expectations may be realised.

### A Harvesting Barrow.

The *Democratique Pacifique* notices a newly patented harvesting machine, invented by Adolphe Nouviaire of Langwy, (Mouselle,) which, it says, will supersede the use of the sickle on the Continent, and make an immense saving not only of labor but of the grain, much of which is now lost by the weather in the slow mode of harvesting. This machine it calls the Harvesting Barrow. "A single man," it says, "propels with ease the harvesting barrow on all fields, whatever unevenness they may present. The impulsive force which he gives it, passing directly from the wheels to the cutters, causes them to cut the grain stalks and any parasitic plants that may be mixed with them. Its work is wonderfully perfect—the stubble is cut short and at an even height, and what is very important is that the machine can be repaired by the common wheelwrights and blacksmiths of a village; and beside, the sharpening of the blades can be done by the workman himself as easily as he sharpens his scythe."

Is it not wonderful that Yankee ingenuity had not invented a thing so obviously practicable and so immediately useful? Our inventors have all been looking to expensive machines to be propelled by horse or steam power, to be employed only by large capital.

## Denny's Axle for Railroad Cars.




The object of this axle is to prevent the many accidents which almost daily occur upon railroads by the breaking of axles, which are sometimes attended with loss of life and generally with great destruction of property. A car properly constructed will run upon a straight track free and easy, but the instant it strikes a curve it is thrown upon a strain, the one rail being longer than the other the wheel on the outside rail must necessarily have further to travel than the other, the other wheel consequently must slide to accommodote it.—This twisting and sliding finally breaks the grain of the iron, and it must sooner or later give way altogether. Axles always break at the inside of the wheel close to the hub, while the bearings are not more than half as strong, and yet they never break unless subject to sudden downward jars. The above plan of axle allows each wheel to run independent of the other to suit the curves, and consequently takes off all the strain except the downward pressure of the lading. The axle is mode in two pieces each having a collar upon the end which works in a recess in the coupling A.—The coupling is cast in two pieces and bored out so as to fit the axle and allow it to turn, having at the same time but little play. The pieces of the couplings are also turned, one having a recess in it and the other fitting into it, so that they have no chance of working to injure or weaken the bolts which confine them together. B B, are the wheels and C, the axle.

The inventor, Mr. L. Denny, of Lancaster, Pennsylvania, has fitted up a set of these axles for the Philadelphia and Columbia Railroad, to test the plan, and they work admirably.—The flanges of the couplings are 11 inches in diameter, and have the axle coupled past the centre on account of the pulleys on the incline plane. Measures have been taken to secure a patent for the invention.

### Organic Vibrator.

An English surgeon has invented an extraordinary powerful small instrument, called the Organic Vibrator, for deafness, said to surpass anything of the kind hitherto produced; it is modelled to the ear, so that it rests within without projecting; being of the same color as the skin it is not perceptible. The powers of this valuable invention are said to be so great as to bring very defective hearing of long standing to its perfect and natural state, and to enable deaf persons to enjoy general conversation, to hear distinctly at church, at the bar, and at public assemblies; the unpleasant sensation of singing noises in the ears is entirely removed, and it affords to individuals affected with this dreadful malady all the assistance that possibly could be desired.

### Oakum Picker.

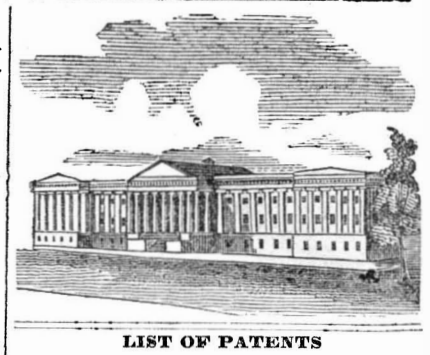
Robert B. Lewis of Hallowell, Me. has an invention for picking oakum which is pronounced by good judges to be much superior to any other in use. It picks it dry, thus avoiding the loss and trouble of drying, and picks it all so that no threads and bits have to be picked out and thrown away. His machine, without proper advantages works well, and those who are interested in such business would do well to call and see it.

### Steam Plough.

A French paper, *La Semaines*, announces the invention of a steam plough, or rather a mode of digging by means of steam, from which great results are anticipated. The inventor is a young medical man, named Baraf The paper states that one of two horse powers was in operation at the residence of the maker, who was constructing another of double that power. The machine proceeds along the field, and digs the ground with the greatest precision. Two beams furnished wifh five mattocks each, act successively upon the soil, loosening it to the depth of 12 or 15 inches and pounding it as small as compost. By using only one of the beams, a tillage of the usual depth can be effected.

### New English Patents.

We learn from Messrs. Newton and Son's monthly list, that patents have been granted to S Stokes, of London, carpenter, for an improved machine for tracing or engraving from solid bodies or subjects in relief: to E. Slaughter, of Avon Side Ironworks, Bristol, Engineer, for improvements in Locomotive engines; to E. Light of Bermondsey, master mariner, for improvements in apparatus for supporting or buoying up persons, boats, and other bodies in the water; and to J. J. Chidley, for improvements in printing presses.



### LIST OF PATENTS

ISSUED FROM THE UNITED STATES PATENT OFFICE,

*For the week ending Sept. 25th*, 1847.

To Halvor Halvorson, of Leicester, Massachusetts, for improvement in preparing raw hides, (having on the 12th day of March, 1847, assigned his right to Timothy Earle, and said Timothy Earle having re-assigned the same to Halvor Halvorson.) Patented Sept. 25, 1847.

To John L. Basset. of Bridgeport, Connecticut, for improvement in Window Blind Fasteners. Patented Sept. 25, 1847.

To Parley Hutchins, of Worthington, Massachusetts, for improvement in machinery for turning Bowls. Patented Sept. 25, 1847.

To Evens Backhouse, Brooklyn, New York, for improvement in Parlor Fire Places. Patented Sept. 25, 1847.

To Ira Avery, of Tunkhannock, Pennsylvania, for improvement in propelling Cars.—Patented Sept. 25, 1847.

To Walter Bryant of Boston, Massachusetts, for improvement in hot air Furnaces. Patented Sept. 25, 1847.

To Henry T. Peake, of Charleston, South Carolina, for improvement in operating Cut-off Valves. Patented Sept. 25, 1847.

To Joseph Magoun, of East Cambridge, Massachusetts, (two patents) for improvements in moulding and pressing and in moulds for pressing glass, (having assigned his right to the New England Glass Company.) Patented Sept. 25, 1847.

### IMVENTIONS AND CLAIMS.

#### Horse Power.

A Horse Power invented by David Anthony, of Sharon, N. Y. Patented August 7th, 1847. What he claims as his invention and secures by letters patent, is the manner in which he has arranged and combined the interior segment with the driving wheel and the travelling pinions, the latter moving round the former while they turn upon their own axis, and give motion to the wheels which drive the pinion upon the sleeve.

#### Propeller for Vessels.

A propeller invented by Horace Everett, Windsor, Vt., Patented 7th August, 1847 What he claims as his invention, and secures by letters patent, is marked in his drawings as follows, the outer cam from A to C, whereby the perfect opening of the paddles at the point E, is secured, on the forward motion of the wheel, leaving the paddles free to commence closing at the point [C] on the backward motion of the wheel; and the combination of the modified inner cam from U to O with the roller E, whereby a shock between that cam, and the paddle rollers, (on the backward motion of the wheel) is prevented.

#### Hydraulic Engine.

A Hydraulic Engine invented by Thomas G. McLaughlin, of Philadelphia, Penn. Patented 7th August, 1846. He does not claim getting a power from a column of water, on the principal of the hydrostatic paradox, by the employment of cylinders, pistons and valves; nor does he claim any novelty in the formation of those parts. But what he does claim as his invention, and secures by Letters Patent, is the combination of the moveable cross head anti-friction wheels and bolt, with valve traversing with said valve and holding it firmly on its seat during the operation of the engine, in the manner and for the purpose described.

### The Guidwife's Friend.

Matthew Irvine, of Welburn, says the *Gateshead Observer*, an ingenious mechanic has made a small steam engine to rock his child's cradle. The length of the engine and boiler is 16 1-2 inches.

The indigo plant is said to have been found growing wild in New South Wales.

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NEW YORK, OCTOBER 2, 1847.

### The Patent Office.

Numerous complaints have been made by applicants for letters patent on account of the great length of time between the period of application for, and the granting of, the *patent right*. Some have bitterly and inviduously vented their wrath against the manner in which the business of the Patent Office was conducted, attributing all delays and all their misgivings to carelessness or partiality. Whenever any complaints have been made to us, we have always corrected mistaken notions in regard to all delays and the impossibility of any partiality. Every application for a patent is examined in its proper order and upon no consideration whatever would this rule be subverted. The Commissioner, the Hon. Edmund Burke, is a gentleman, and like his great namesake, " no man can talk with him five minutes without being impressed with the idea, that he is a remarkable man." The reason why, that it is five and six months after application is made for letters patent, before they are granted, is because the Patent Office has too much labor to perform according to the number of assistants allowed. In the last report of the Commissioner of Patents to Congress he eloquently alluded to the great necessity of an increase in the examining corps of the Patent Office. Congress, however, has made no provision for the necessary increase, and perhaps will not until some torpedo inventor sends some strange locomotive thundering through the Capitol with its broad banner waving boldly amid the din of dismay, the wreck of overturned inkstands, singed wigs and broken winded speeches, and on which shall be inscribed " immediate patent rights to prevent further damages."

In 1846, the number of applications were 1272, and the applications this year will probably be increased twenty five to thirty per cent. Now, how can these be carefully and critically examined, (as they are and must be,) in the Patent Office in a short space of time, unless there are a competent number of Examiners? It is stated that there are about 580 applications now on hand and that the office is about half a year in arrears in examinations. We are sorry that such is the case.—We feel with the members of the Patent Office and with inventors, and hope that next Congress will act promptly and generously for the encouragement of American genius. The Hon. Zadoc Pratt, Senator from this State, proposed that drawings and description of every patent should be deposited as they were issued, in every Congressional district in the Union, or at least at the seat of each State Government, that would provide for their safe keeping. We had some conversation with Mr. Pratt on this subject last January and we certainly concur with him in his excellent plan for a reform in the Patent Office.

There was a surplus of $186,565 of the Patent Office funds last January. If this sum was invested in productive funds, the interest would go far toward defraying the expense of republishing the specifications and drawings of patented inventions. And if such descriptions could be deposited in each Congressional District in the Union, as he suggests, they would be productive of immense good to the community. They would tend to introduce into public use valuable inventions. It would enable inventors to see what has been patented, and save them the trouble and expense of applying for patents for inventions which are old, and must be rejected.

### The State Fair.

We see it stated in several papers, that although the exhibition of the State Fair was not quite up to some of its predecessors, the attendance was quite as large. But this is not the fact. The receipts last year from members and for tickets, were $4,400. This year they are only about 3,700.

### Horse Power.

In correction of a statement which has been widely circulated, attributing to the Scientific American the authorship of a paragraph stating that " a horse power was 130 pounds raised one hundred feet high per minute," we would say that such information ought to be saddled upon its true author. The mistake must have originated in some other paper than the Scientific American. The usual estimate of effect of horse power, is 33,000 pounds at a velocity of 1 foot in height per minute, (or 330 pounds one hundred feet high per minute.) Bolton and Watt supposed a horse able to raise 32,000 pounds avoirdupois 1 foot high in a minute; Desagueliers 27,500; Smeaton 22,916. Bolton and Watt, however, in calculating the power of their engines, suppose a horse to draw 200 pounds at the rate of 2½ miles per hour or 220 feet per minute, with continuance, drawing the weight over a pulley. Now 200×220=44000; that is 44,000 pounds at 1 foot high per minute, or 1 pound at 44,000 feet per minute. Bolton and Watts engines, therefore, were of great power, according to their estimate of horse power as registered by them. A 30 horse power engine of Watts being equal to 50 of Smeaton's. We shall allude to this subject again, as we are always happy to throw light upon any subject, for the benefit of correcting the CORRECTOR.

### American Archæology.

The Smithsonian Institute is about to commence the publication of some splendid works relative to our aboriginal researches. For a number of years Mr. E G. Squier, and Dr. D. E. A. Davis, of Ohio, have been prosecuting their researches among the mounds of the Far West, and their discoveries have been of the most interesting character. Their collection embraces many thousand objects, exhibiting the state of the arts among the ancient people, of whose existence they are the only memorials. They consist of implements and ornaments in silver, copper, lead, stone, ivory and pottery, fashioned into a variety of forms, and exhibiting a skill which, in some instances, modern art cannot surpass. The sculpture of birds, animals and reptiles constitutes a large class of these ancient relics. They are cut from various kinds of stone, and in many instances from porphyry. Several highly finished sculptures of the human head are deserving of notice, and probably convey an idea of the physical character of the people. A single skull, the only one out of hundreds discovered in fragments which has been preserved entire, and which the explorers are satisfied belongs to the primitive people, is all we have to enable us to form an opinion of the race of men that once inhabited these now interesting portions of country.

A large sum was left by Mr. Smithson, for the purpose of publishing works of useful knowledge, and from what we know of the qualifications of Mr. Squier, it will be a work which will be an honor to America and the Smithsonian Institute. Mr. S. is an accomplished draughtsman and has a fine taste and an enthusiasm for a work of this nature.

### Imperishable Portraits upon Cameos.

A young medallist of the name of Picourt, of London, has struck out a new path, and has ventured upon taking likenesses upon cameos, which, of course, are imperishable, and his essays have been crowned with the greatest success in those of Her Majesty and the Prince Consort.

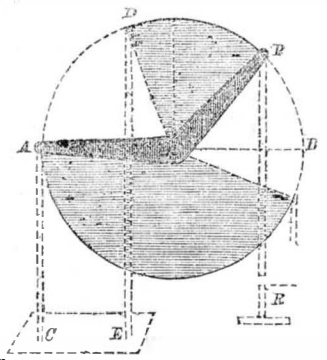
The above we notice in one of our London exchanges, but Mr. Picourt is not the first portrait cameo cutter. We have seen portraits cut in cameos not far from this office, more than six months ago.

### Pioneer Meeting.

The early settlers of Rochester, still residing in that city, have determined to call a social meeting to recount their privations, experiences, &c. The time for the meeting is not yet fixed. The invitation is proferred to all who settled at, or were born in Rochester previous to the first day of January 1819, and now reside in the city or its vicinity; and each person is to have liberty to narrate some interesting incident of his early settlement at Rochester, but to occupy for this purpose not more than ten minutes.

### Expansive Steam Angular Beams.

There can be no doubt that in vacuum, steam-power will expand to nearly O; but, by the present mechanical arrangement for the application of this power, a force nearly equal to the load is annihilated at the moment of condensation, especially as the idea of percussive action is now exploded, and the opposite of *vis inertia* of no account—matter in motion, it seems, being not more easily kept moving than a body at rest may be set in motion. But expansive steam power might be rendered more available than at present by an *angular* beam; as, to render the principle of expansion fully available, the resistance should diminish with the expansion. This cannot be accomplished by constant leverage alone, nor with combined cylinders. With all due deference, we submit the following diagram to the powerful minds still employed on this interesting subject:—




This beam forms an obtuse angle of 135°, or 45° from a right line, and ranges within and without through 67½°, or less but not in opposition arcs of the circle—*addition* of steam leverage power, and *substraction* of resistance, going on at the same time. AB, horizontal line, beyond which the beam *without* is not to descend—the beam within descending but 22½° degrees below B. AC, and DE, pump-rod in two positions, or beginning and end of stroke. PR, piston-rod, with parallel motion, &c. This diagram sufficiently illustrates the principle now propounded; and it is quite possible that, in the same age, others are thinking of the same thing. There is an objection—and that is, that the more vertical position of the beam at the end of the stroke, may retard the descent of the pump-rod. This, however, may perhaps be obviated by other arrangements, or by a contraction of the ascending arc. The indoors beam may, relatively to the out-doors, be lengthened as at present—thereby creating a further leverage in a compound ratio, which may afford some explanation of the duty even at present done. The oscillation of the pump-rod will not effect the plunger at the bottom of the shaft, nor need the rod impede any workings, if placed on one side.

### Anthracite Coal for Locomotives.

Mr. Winans, of Baltimore, an eminent engineer, has lately constructed two locomotives for the Reading Railroad, which have been built expressly to burn anthracite coal. We have been informed that they have given great satisfaction to the company. This is a very important improvement in the furnaces, as it will enable them to use fuel of one fourth the price of wood and will be a great saving. We can see no difficulty in the way of the general use of coal in the place of wood. It is but a few years since our engineers on the North River thought it impossible to dispense with their pitch pine firewood, and that it would take a week to go to Albany from New York with coal, but what has been the result of the change. Why quicker trips have been made this season than ever were made before on the Hudson. We do not say that this is all the result of substituting coal for wood, but it proves that no diminution of speed has resulted from the change. Where wood is cheap, it is to be preferred as a fuel, as there will not be such a wear of pipes and heating surface, an important consideration undoubtedly in locomotives.

The print works in Simmonsville, R. I. occupied by Patrick Wright, were destroyed by fire Friday evening. The building, with the exception of the walls was entirely destroyed with the machinery. The lossis from $12,000 to 15,000 dollars. The fire originated in the room adjoining the hot room.

### Further Novelties in Glass

Only the other day a proposal was made to add a new grace to the piano forte by covering the key notes with varicolored glass; and other projects, such as the conduction of illuminative gas through pipes of glass, with ground and closely fitted jointings, have been suggested through the same medium. It now appears, however, that not only milk-pans (yielding, by the bye, an additional crop of cream, it is said,) and cream-pots, jars, and flower-pots, tiles, grape-glasses, and various other horticultural and floricultural utensils are already made of glass, but even also such unlikely implements as rolling-pins, and a heterogeneous list of other manufactures hitherto usually wrought in wood, or clay, or metal. Bee glasses, too, and propagating-glasses, seed protectors, &c., are now made of this useful and elegant, as well as cheap material, which scarcely requires the establishment of anything like truth in a recent report of the discovery of a mode of rendering it malleable, in order to constitute it a most formidable antagonist and substitute for all kinds of manufacture, not only in metal, and wood, and clay, but in other materials, including even silk and worsted—for we may add, and what may not be known to some of our readers, that beautiful fabrics, even as it it is, have been actually woven with a mixture of threads of colored glass and silk.

### Copper and Silver Ore.

Two beautiful specimens of Copper and Silver Ore were lately received at Pittsburg by Messrs. Hussey, Hanna & Co. The one weighs 70 lbs. and the other one-half of a cutting of pure Copper which weighed between three and four thousand pounds. This immense mass was taken, as it may be seen, from the surface of the earth, and is not the largest specimen from the mine. The more we see and learn of the mineral capacity of the Upper Lake Country, the more amazed we are at its riches and beauty.

The Cliff Mine Company have shipped during the present season, three hundred and ten tons of Ore of the value of about $77,000 in the Eastern market. All this has been pushed forward since the opening of navigation on the first of June, and none has been sent to market, not valued at more than fifty per cent.

From the first of June to the 23rd of August the actual products of the mine were 165 tons of pure copper, and this at an expense to the Company of not more than $5,000 a month. The value of this Copper is $58,000, affording a net profit of $43,000. Such facts need no comment.

The extensive tannery of Willard Parker at Detroit, was entirely destroyed by fire last Wednesday night. This was one of the most extensive establishments of the West, and the loss will not be less than $10,000. Insurance $3,000. Several hundred tanned hides, ready for use, a large number in the vats, and dry ones about the building, and a great quantity of bark, besides the extensive buildings, were a total loss.

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## FOREIGN CORRESPONDENCE.

GLASGOW, Sept. 1, 1847

*Dear Sci.*—

After a long sojourn in the metropolis, I have wandered away to the land of Robert Burns, and am now in the city of James Watt and Henry Bell. These men, however, were not natives of Glasgow, although this was the place where they first successfully displayed their mechanical genius, the one in the steam engine, the other its application to navigation. Strange to say, Watt was not a machinist, but a philosophical instrument maker, and Bell was not, as American biography would have him, "an engineer," but a carpenter. These men were born within five miles of each other, Watt in Greenock and Bell in the beautiful village of Helensburg. Watt, I have been informed, was the first inventor of the rotary as well as the common steam engine. These facts I presume are not well known either here or abroad.

Glasgow is a huge workshop. Cotton cloth, iron and machinery are the principal articles of manufacture and export, and these are manufactured for all parts of the world. I have visited the machine shops of R Napier, the famous engineer, who has built all the engines for the Cunard Line of steamers. One of his shops is in Washington street, what think you of that for the Scotchmen of Glasgow.—It shews that while he is the Father of our country, he is also the admiration of the world. There is a fine Mechanics' Institute in this city. It is adorned with a statue of James Watt. Here Ure lectured and Mackie taught, and the mechanics—those with whom I have conversed—are scientific and intelligent. They have great privileges, inasmuch as for two dollars and a half per annum they have access to all the Lectures and the Library. There is a fine Labaratory and Museum attached to the Institute. There are models of machines innumerable, ancient and modern, and fitted with screws so that they can be taken down quickly and each part explained separately and all the parts relatively. I was exceedingly pleased with an anecdote related to me by a young friend, John Livingston, an engineer with whom I had formed an acquaintance. He said that Mr. Percival, brother of Robert, who was shot in the lobby of the house of commons, and Mr. Lancaster, the founder of the Lancasterian system of teaching, came to Glasgow, to introduce the system there.—They attended the Mechanics Institute and heard Dr. Ure lecture on chemistry to a well filled house of working men in their working clothes. Ure it seems dealt somewhat in the abstract that evening, and after the lecture was over, Percival went up to him and said, "Dr. Ure, did these men understand the one half of what you said?" Ure was somewhat nettled for the honor of his country, and very pompously answered, "Why Mr. Percival, these men not only understand all that I said, but I can pick out two hundred of them that can lecture as ably upon the same subject as I can." "Oh, then," said Lancaster, "we are on a wild goose chase, we are like coming to Glasgow from London with Glasgow coal."

I have been informed that Dr Anderson, the inventor of the Flying Artillery, lived and died here. There is an excellent Institute here which he founded and which bears his name, in a very flourishing condition. His memory is held in reverence by the mechanics of Glasgow, as he used to go and teach them scientific principles in their shops, just like one of themselves. They are bringing in water to supply the south part of the city from a distance of nine miles. It will be brought in by gravitation like the Croton in New York.—The fountain head is 280 feet above the highest part of the city, and collected in a reservoir among the hills where Robert Pollock the poet was born. This is a great city for steamboats. You can see a line of them two miles long at any time at the Broomilaw Quay, as they call the wharf. I almost forgot to mention that R. Napier is building the engines for two large steamers of 1800 tons burthen for the New York and Liverpool line. You will see them next spring.

The Queen has been on a visit to Scotland, and an incident occurred in the Clyde which exhibited the cool daring of our Yankee tars. As her Majesty's steamer was about to pass the Macedonian frigate, and while cannons were roaring from the shore in every direction, and the atmosphere resounding with the huzzas of the multitudes, two seamen were seen on board the American frigate, the one sitting coolly on the summit of the fore-top-royal, and the other of the mizen-top-royal mast. Immediately a third sailor was observed mounting the main mast, which he also nimbly ascended, and then standing upon its very top with one foot, he deliberately took off his hat, waved it three times round his head, and gave a cheer to her Majesty, and a zest to the saying of Davy Crockett, that "he could leap higher than any man on the steamboat."

This is a great city and full of much that is interesting to the Scientific American. But adieu—more anon. R. B.

### Thorough Draining.—Irrigation.

The Royal Agricultural Society of England is still urging the importance, and encouraging the practice of deep and thorough draining of all moist lands. Pipes sunk two and a half feet deep were regarded as low enough a few years since; but larger experience has demonstrated the superiority of drains four feet from the surface. With such a hydrostatic pressure above the open tube, one of two inches in diameter will carry off twice as much water as it would if a foot and a half higher up, or nearer the top of the ground. Few are fully aware of the great benefits that accrue from the removal of all stagnant water, above or below the surface of improved land. On all clayey soils, or those that have a hard pan subsoil, draining is found to be useful. If a farmer were able to irrigate every field when too dry, and drain it when too wet, it would add immensely to chances of always growing most abundant crops. Our hot summer sun, and quite common lack of timely rains, render irrigation of far greater importance in this country than in England. There are hundreds of small streams that might be turned from their natural beds at a trifling expense, and made to water and fertilize hundreds of acres. The government of Egypt is now expending some eight or ten millions of dollars in daming the Nile, and cutting canals to use water for agricultural purposes. To carry it on to still higher levels, several enormous steam engines are making in England to be used to pump this indispensible liquid to an elevation high enough to water thousands of acres above the high water mark of the Nile.

### Missions.

From a detailed report of the concerns of the American Board of Missions, read at the recent meeting at Buffalo, it appears that the receipts of the year had amounted to $209,365 21, and the expenditures to $264,783,73.

The Board has now under its care twenty-six missions, embracing ninety-six stations, in connection with which there are laboring 140 ordained missionaries, nine of whom are also physicians; six printers and book-binders, 193 married and unmarried females; making 370 missionary laborers sent from this country—associated with whom are 22 native preachers and 135 other native helpers, making the whole number connected with the Board and dependant on it mainly for support 526. Under the care of the missionaries and gathered by their labours are 73 churches, to which have been added, during the past year, 1076 members. The present number of members connected with these mission churches, is 25,441. There are connected with these missions 11 seminaries for training native preachers and teachers, having 423 pupils, and 22 other boarding schools having 399 male and 536 female pupils; also 367 free schools, in which are about 11,330 pupils, making the whole number in school about 12,600; not including schools in the Sandwich Islands, supported in part by the people.

There are eleven printing establishments and six stereotype foundries connected with these missions, and the amount of printing the past year has been over 40 millions pages and over 575 millions since the commencement of the Board's operations.

Ether has been found exceedingly useful in cases of operating on children for the cure of squinting.

### The First Introduction of Anthracite.

The following statement illustrates most forcibly how much harder it is to persuade mankind to believe in truth than fiction; and illustrates, in some degree, the resources of Pennsylvania:

It is interesting and amusing to look back to the first attempt made to use the anthracite coal, and to bring it to market. Hon. Charles Miner, of Wilkesbarre, in his published account of his first efforts, in connection with Mr. Cist and other associates, relates some pleasant anecdotes. On the 9th of August, 1814, they started off their first ark from Mauch Chunk. "In less than eighty rods from the place of starting, the ark struck on a ledge and broke a hole in her bow. The lads stripped themselves nearly naked to stop the rush of water with their clothes." In six days, however, the ark reached Philadelphia, with its twenty-four tons of coal, which had by this time cost 14 dollars a ton. "But," says Mr. Miner, "we had the greater difficulty to overcome of inducing the public to use our coal when brought to their doors."

"We published handbills, in English and German, stating the mode of burning the coal either in grates, in smiths' forges or in stoves. Together we went to several houses in the city, and prevailed upon the masters to allow us to kindle fires of anthracite in their grates, erected to burn Liverpool coal. We attended at blacksmiths' shops, and prevailed upon some to alter the Too-iron, so that they might burn Lehigh coal; and we were sometimes obliged to bribe the journeymen to try the experiment fairly, so averse were they to learn the use of a new sort of fuel."

How like a fable all this seems at the present day!—As we sit before our coal fires and think of no other, how little do we realize that thirty years ago Mr. Miner and Mr. Cist were trying the experiment of an anthracite fire at Wilkesbarre, and wondering whether they could not float an ark load of the coal to Philadelphia? Now we are reckoning the coal trade in millions of tons.

In the Schuylkill region the effort was made a little earlier. In 1812, Col. George Shoemaker loaded nine wagons with coal at the place now known as the Centreville Mines, and proceeded to Philadelphia. "Much time was spent by him in endeavoring to introduce it to notice, but all his efforts proved unavailing. Those who deigned to try it, declared Col. Shoemaker to be an imposter for attempting to impose stone upon them for coal, and were clamorous against him. Not discouraged by the sneers cast upon him, he persisted in the undertaking, and succeeded in disposing of two loads for the cost of transportation, and the remaining seven he gave to persons who promised to try to use it, and lost all the coal and charges.

### A Cat and an Adder.

A shepherd in the upper part of Annandale was engaged one forenoon last spring in casting peats not very far from his own house. His cat, probably for the sake of society, had accompanied him, and his attention was drawn to her unusual movements while he was busily engaged in providing a supply of warmth against the cold nights of winter. On proceeding to the spot he discovered that pussy was engaged in mortal conflict with a large adder, which she had probably attacked at first in mistake for an eel. The adder leaped at the cat with great bounds, sometimes going over it by several feet, and the other kept standing on its hind legs, striking the enemy on the head with the claws of its fore feet. After this encounter had lasted for some time, the shepherd became apprehensive of his cat receiving a mortal bite from the fangs of the serpent foe, which he disabled by a a stroke from his spade. Pussy immediately rushed upon the unfortunate adder, and finished it in a most savage manner.—*Dumfries Courier.*

### A Down East Farm.

Manly B. Townsend, of Alexander, Washington county, Maine, has a good farm containing 320 acres, 150 of which is cleared and cultivated. Last year he raised 100 tons of hay, 100 bushels of corn, 150 of wheat, 70 of buckwheat, 125 barley, 250 oats, 400 potatoes, 400 turnips, 15 of beans; making in all 1510 bushels, and 100 tons of hay.

### Mechanics Mutual Protection.

The Mechanics Mutual Protection, No. 7, Brooklyn, since its resuscitation three months ago, bids fair to be one of the best Protections in the United States. They have already 46 members and there is a unity, an interest and zeal displayed by them which cannot be surpassed. They certainly have our best wishes for their success, and we sincerely hope to see the cause spreading far and wide. It is high time that all good mechanics understood the power of union of interests, and union of soul. The co-operation principle is a grand one. It is only by co-operation that the Mechanics can truly benefit themselves; union is strength; knowledge is power. Let a good union be formed then for beneficial purposes, and let knowledge and wisdom guide our mechanics footsteps, and what grand results may we not anticipate. Hitherto our mechanics have stood aloof from friendly associations among themselves; hitherto they wanted self-confidence and mutual confidence, but those feelings must be thrown to the moles and bats and they must arise in moral grandeur and moral strength and engage in the best cause to enlighten the mind and ennoble the soul. The principles of the Mechanics Mutual Protections are good, they only want to be carried out fairly and fully to be a great benefit to the working classes. Let then all good mechanics lend a helping hand.

### TO CORRESPONDENTS.

"E. C. P. of Vt."—We have received your communication with the solution of the problems, and have sent it, with some others, to the gentleman who offered the rewards. We have no relative interest in the business.

"S. C. T. of Ga."—We are collecting facts on the Horse Power, and so far as we have received evidence, the preference is for bands, as being lighter than cogs, and working smoother. We shall endeavor to say more at some future period.

"C. S. M. of Miss."—We have not answered you by letter yet, because we have not been able to get any satisfactory information on the subject. We will answer soon.

"J of N. Y."—See No. 44, page 348, of the 2d volume Scientific American, and the article, "Refining Tallow." Tallow and sweet oil mixed, is the best composition for lubricating machinery. Whale oil may be very good when refined.

"L. M. of Mass."—We would suggest the abandonment of your scheme entirely.

"S. W. of Mass."—We have complied with your request.

"R. M. of Ohio."—Our columns are devoted to scientific matter, not political economy. Every thing in its own place.

"N. G. of Missouri."—We had not been informed of the removal of E. House until we received your letter. Where he has gone to we cannot tell, and he only can give you the desired information.

"W. S. T. of Ohio."—We shall give your invention due attention. It is apparently good, and opportunity for an engraving may come about soon. With pleasure would we desire to see it published.

"I. D. of Manchester, N. H."—If you will deliver your first volume to this office free of expense to us, we will pay you three dollars for it.

"C. S. B. of Penn.—J. C. Robertson of 166 Fleet Street London, Editor of the Mechanics Magazine is the proper person for you to communicate with if you wish to do so personally. He attends to getting out patents promptly.

"A. D. of Boston."—We shall endeavor to give you the requisite information.

"J. E."—We shall attend to your business promptly.

"E. R. of Syracuse, N. Y."—We are obliged to you for your kindness.

"W. S. of R. I."—We have received your letter of the 27th and will attend to your request.

J. B. of R. I."—We have sent your letter to the person for whom its contents were intended, the answer will in all probability be sent to you. We have no business connexion relative to the matter.

"G. S. of Maryland."—Silver and brass plating can only be learned as an art. The tining of iron cold is more expensive by far than

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hot, and it is not in common practice at the North. The process of electro gilding and the depositing principle by galvanic agency, will be explained in some of the future numbers of the Sci. American, but as there will be a number of articles on this beautiful science, we cannot tell in what number we will commence the publication.

"L. K. of Ala."—We published some few weeks ago that a good engine of twenty horse power, of the most excellent workmanship all complete could be had for $2000. It is no sham of an engine but one that will last and give the most satisfaction in the end. Cheap engines are generally short lived, a good article must be well made and therefore it cannot be made but for a proportionate price. A small engine however will suit your purpose and if you will send us word what your are willing to pay we shall try and accommodate you.

"E. H. A. of Boston."—We have sent you the Circular of the American Institute by mail, which will give you all the information relative to the Fair.

"N. H. of Maryland."—One man upon examination of your portable steam hyderoserous boiler, went away in a state of its authorship, *non compus mentis*. The Justice and the P. M. are both *he ones*. All these things taken into consideration, we advise you not to blush nor be dismayed, as the invention is the most wonderful of modern times. Your old papers, &c, should be laid before the Mineralogical Bureau.

"W. B. of Brooklyn."—The business which you wish transacted at the Patent Office cannot be done without a suitable fee to be transmitted there. But you may rest assured that no patent can be granted for making of oil cloth simply, it must be for a peculiar process or a peculiar pattern, or design.

"J. H. C. of Columbia."—The price of the work you enquire for is 25 cents.

"S. O. P., St. Louis Arsenal."—The 34 numbers which you enquire for, will cost you $1,36.

### To Subscribers.

The reason that no receipts have been sent lately in acknowledgment for money received, is because we cannot do so without being subject to the penalties of an unjust Post Office law, and to publish the names of *all* the subscribers that we are now receiving, would occupy too much space in our columns. Every subscriber may consider his subscription received when he gets his paper, and may rest assured that we keep all things straight.

### Temperance Melodies.

Messrs. Oliver & Brother, publishers of the "New York Organ," have just issued a collection of choice Temperance Songs, in book form, which they propose to publish in numbers, at 12 1-2 cents each The first number indicates that it will be a very neat little work.

### Union Magazine.

This splendid Magazine for October has just been laid on our table. It has two beautiful mezzotint plates and a plate of fashions for this month. The Pilgrim of Love or a biography of a Troubadour, is one to our liking by G. W. Simms. We like the songs of the ancient days of chivalry. It is edited by Mrs. Kirkland, and published by Israel Post, 140 Nassau street.

### Ranlett's Architecture.

No. 10 of this splendid work is just issued. The design No. 20, is a Villa in the French style, very suitable for different parts of America. We cannot express too high an opinion of this work. It is full of instruction full of taste, grace and beauty, and every architect, carpenter and mason ought to poseess it. It is only 50 cents per number, published by W. H. Graham, Tribune buildings, W. H. Ranlett, Architect

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### Washington Monument.

The Washington Monument Association are said to have finally adopted the design of Mr. Calvin Pollard, which is purely Grecian. It is rumoured that the Corner Stone will be laid on the 19th October.

### Vol. 1 Scientific American.

A few sets of 25 Nos. each of Vol. 1, Scientific American, can be had at this office, price 50 cents. The complete sets of the last half of Vol. 1. have all been disposed of at the subscription price, and the numbers advertised above are not consecutive, but in fine order.

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☞ This paper circulates in every State in the Union, and is seen principally by mechanics and manufacturers. Hence it may be considered the best medium of advertising, for those who import or manufacture machinery, mechanics tools, or such wares and materials as are generally used by those classes. The few advertisements in this paper are regarded with much more attention than those in closely printed dailies.

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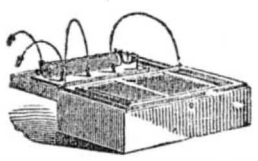

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Yours truly. R. T. HALLOCK, 174 Chambers st.

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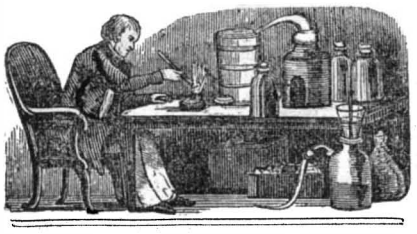


**Chlorine Gas.**

The atomic equivalent of this gas is 86. It is electro-negative and eminently destructive of animal life, as the author of this article can with a thrill of horror testify, he having nearly lost his life in a chemical experiment It is dangerous to breathe it though largely diluted with common air. The eminent French chemist, Peliter, lost his life by inhaling a quantity of it. It has an astringent taste and a very suffocating smell. To make it—mix three ounces of powdered manganese with eight ounces of common salt, put this mixture into a retort and pour on it six ounces of sulphuric acid diluted with an equal quantity of water, and the gas will be produced for experiment in great quantities.

Explanation.—The sulphuric acid combines with the soda of the common salt forming the sulphate of soda (glauber salts,) whilst the muriatic acid of the salt is set free, and one atom of the peroxide of manganese is again united to the hydrogen of the muriatic acid to form water whilst the chlorine is left alone and passes off in gas. It can be made more simply, however, by the black oxide of manganese and muriatic acid submitted to the action of heat in a retort.

This gas was discovered in France and first called oxyenized muriatic acid. It was first introduced into Britain by James Watt, the great mechanic, and used for bleaching cloth and yarn, cotton and linen. It was used first in liquid of potash, until Charles Tennent, of Glasgow, made the discovery that the flower of lime would absorb it and then give it out again when mixed with water. This made it portable and chlorine gas is now carried from M. Tennent's works in barrels to all parts of the world. It has shortened the process of bleaching linen, from six months to as many hours.

**Extracting Ink from printed Paper and restoring it to its original state.**

It has long been a desideratum to restore the value of printed paper by some easy and efficacious process. The power of alkalies in partially dissolving printer's ink is very well known. The oil used in the making of this ink is much altered in its nature and partly decomposed by the great heat to which it is subjected in its preparation ; the circumstance of its ready adhesion to the wetted sheets in the act of printing shows the change it has undergone. The lampblack, its principal coloring ingredient, is totally insoluble in any menstruum, and therefore the separation of this substance must be almost entirely mechanical. The great difficulty then, which presents itself is the insolubility of this carbonaceous black.

The Germans have had, for some years, practical processes for this end, and that with success ; one of these is specially worthy of attention. It consists, first, in the sorting the papers to be cleansed according to their quality ; but this is only necessary where the quality of the ink employed in them has been different. The parcel of paper is next pulled to pieces. It is then put into hot water, mixed up into a pulp, and heated, in order to extract the size. The next process is that of loosening the adhesion of the ink, which is performed by an alkali nearly caustic. A quantity of strong lime water is made, and in twenty gallons of it are dissolved twenty-four or eighteen or ten pounds of the best American potash, according to the required strength, which is the greatest for the German paper.—The above quantities of alkaline are used respectively for 336 pounds of pulp. These are kept in a copper boiler for some time, till by samples of the paper taken up at different periods the adhesion of the ink appears sufficiently loosened. The whole is then transferred to a wooden receiver, perforated with a number of holes, through which the alkali liquor drains, and the pulp is repeatedly washed till clean. It is then, though free of the ink, very brown and ill colored. To whiten it, the chloride of lime is employed. Ten or 12 gallons of the acid are put into a wooden receiver lined with white lead and water, with 240 pounds of the pulp, and these materials are kept together till this pulp is thoroughly whitened. It is then remanufactured in the usual manner. Writing paper does not in general require so much, if any, of the previous alkaline process, but is bleached at once by being confined in a wooden box rendered air tight, while the acid gas is thrown in immediately from the retort in which it is produced.

**Dietetics.**

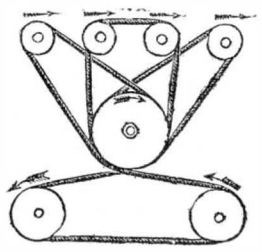
Grind a bushel of wheat (says an excellent Agricultural Journal,) and use for making bread only the very white, superfine flour, and you get little beside the starch in the grain, losing most of the muscle and brain forming elements in the "middlings." It is in the latter that the chemist finds most of the gluten, bone earth, sulphates, and chlorides. As the stomachs of all the higher order of animals contain hydrochloric acid in some form, (one of the elements of common salt,) the separation of this in bolting makes the bread of superfine flour likely to weaken digestion and induce costiveness. A little salt may remedy this defect; but what will give to the blood the bone earth, and organized sulphur, phosphorous and nitrogen, which are indispensible to repair the waste in the bones, muscles, tendons, membranes, nerves, and brain of the system ? A very little of the coarse bran may be removed without injury, but the canel should be eaten with the white starch called superfine flour.

In making cheese, nearly all the sugar of milk is lost in the whey. We are aware of the fact that the pigs or cows get this; still we want every house keeper to know that two quarts of new milk made into a baked Indian, rice or bread pudding, are worth a great deal more as food for man than the milk would be if made into cheese or butter.

If most families would consume a little less butter and fat, and a little more sugar, molasses, or honey, the wants of nature would be better provided for. Be careful never to overload the stomach, nor weaken it by the presence of an indigestible substance.

## MECHANICAL MOVEMENTS.

**Velocity of Wheels.**



Having previously explained the uses of belts for changing the motions of machinery, we will now explain principles of relative speed. In the above cut we have a representation of various velocities and as their motions can easily be discerned, we give the rule only of the calcula. To find the proportion that the velocities of the wheels in a train should bear to one another, subtract the less velocity from the greater and divide the remainder by the number of one less than the wheels in the train and add the lowest ; the quotient will be the number rising in arithmetical progression from the least to the greatest velocity of the train of wheels

EXAMPLE.

What is the circumference of each of three wheels to produce 17 revolutions per minute the driver being 107 inches inches in circumference, or 35 2-3 diameter and making 3 revolutions per minute.

17—3=14

3—1= 2 —=7, therefore 3, 10, 17, are the proportional velocities of the wheels.

Therefore for the scond drum or wheel,

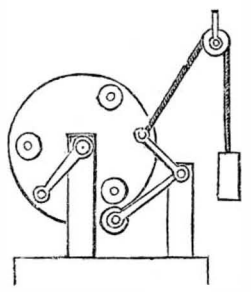
As 10 : 107 : : 3 : 32=$\frac{107 \times 3}{10}$=32 1-10.

Third drum or wheel,

17 : 32 : : 10 : 19=$\frac{32 \times 10}{17}$=18 14-17.

Or, 107—32 1-10—18 14-17—circumferences of the drums.

**Circular and Reciprocating Motion.**



There are so many curious methods of changing motion that it would seem there is no end to the curious constructed machines either of ancient or modern days. The above cut will illustrate how a bucket can be kept moving up and down over a pulley while the propelling power has altogether a different motion—a circular. Here is a stationary post, on the right of the wheel, and to an angular beam is fixed the rope to which the bucket is attached, while on the other end of the beam is a knob which is struck at certain distances by knobs on the wheel and it will easily be perceived that one knob on the wheel is just enabled to clear the rope end of the angular beam by the weight of the bucket receding when the knob takes hold of the beam and the bucket again raises, is drawn up. The attachment on the other side tf the wheel post is for attaching other machinery to perform the same labor as the knobs. Strange as this machine may appear, it has been used as as seen by Macartney in his travels through China.

**Curiosities of Art.**

(*Concluded from our last.*)

In another chamber of the King of Saxony's Palace is a piece of the greatest curiosity. It is an exact representation of the throne of the Great Mogul and his Court. It is an extraordinary work of art and labor, consisting of silver figures, enamelled in colors and adorned with precious stones. There is a view of his tributary potentates bringing presents and falling before the throne, with elephants, soldiers and attendants in their different stations. It is the work of an artist named Dingelenger. Another most interesting chamber is a large library of prints, giving by collections a complete history of the art of Engraving. There is also a Mineral Gallery, having in it the earth and soil of the different countries of the world, also ores of all descriptions, such as tin, copper, silver and gold, and solid lumps of the pure metal from the mines of Saxony, like so many stones. But above all, there are curious metal vegetables, some of gold and some of silver, about six inches high, apparently a freak of metallic nature. The Saxons are good mineralogists, the students at Friburg having long studied the science. There is also in another room pearls found in the Elster and other rivers and a great quantity of asbestos cloth. Also a great variety of petrified birds and fishes. There are a thousand different kinds of beasts and birds stuffed, and skeletons of rare animals, besides a picture of a man and his wife who lived till they were about 182 years of age each. There is also a model of the temple of Solomon, which represents the Ark, the Sanctum Sanctorum, the Sacrifices and all the ceremonies of the Mosaic law.

The Picture Gallery is a fine collection.—The works of Corregio, Raphael and Reubens, are found in abundance. But perhaps the greatest curiosity is the Chinese Palace. We may talk abut the Junk as we choose, but it is nothing at all in comparison with the rarities in that palace. The whole of the ornaments are after the manner of China and Japan, and there are fourteen apartments filled with the most exquisite porcelain, more than 100,000 pieces, figures of dogs, elephants, rhinoceroses, lions, turkies, pheasants, parrots, and a curious collection of porcelain flowers, and the twelve Apostles, near three feet high, in white porcelain, and a representation of the Crucifixion; and there is also a singular clock, made of beautiful Dresden ware. In short, birds, beasts and figures of every description in porcelain, make it the most wonderful and curious exhibition of art to be seen in the world. Much indeed may be called baubles, and no doubt the poor peasantry have paid for all.—All of this kind of wealth is the fruit of the peasant's toil, to adorn a temple or a palace hall.

**Chinese Telegraph.**

In the travels of John Bell, from St. Petersburg, to Pekin, he describes an ingenious invention, in which the reader will recognize a telegraph. The following is the passage :—

" Near to the densely crowded city of Siang-fu, we met with many turrets on the road, called post-houses, and erected at equal distances from one another. On the summit of each is a flag staff from which floats the imperial pendent. These turrets are so contrived as to be in sight of one another, and by signals are made use use of to convey intelligence of any remarkable event. By this means the Court is informed in the speediest manner imaginable of whatever disturbance may happen in the most remote provinces of the empire. These posts are also very useful by keeeping the country free from highwaymen ; for should a person escape in passing by one he would certainly be stopped at the next."

**Chinese Stoves.**

From the source whence we derive the above, we also learn that the Chinese were in possession of flue stoves in the year 1720, similar in many respects to those now in use. Bell found six kettles placed in a row, on furnaces, having a separate opening under each of them for receiving the fuel, which consisted of a few small sticks and straw. The cook by pulling a thong blew a pair of bellows which made all his kettles boil in a very short time. These stoves are very thin, made of cast iron, and extremely smooth both within and without. The scarcity of fuel in populous cities necessarily prompts people to continue the easiest methods of dressing their victuals and keeping themselves warm during the winter, which is in China severe for about two months.

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